

# New microphysids (Heteroptera, Cimicomorpha, Microphysidae) of the Baltic Eocene amber from the collection of Ernst Heiss<sup>1</sup>

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**Abstract:** Seven pieces of Baltic amber containing inclusions of Microphysidae from the collection of Ernst Heiss (Innsbruck, Austria) were studied; five of them are described here as new species of the genus *Loricula* (sensu lato). A key of the fossil species of this genus from Baltic and Ukrainian amber is presented.

**Key words:** Baltic amber, Heteroptera, *Loricula*, Microphysidae, species novae, Ukrainian amber.

## Introduction

This article is the continuation of a series of papers on fossil microphysid bugs from various insectiferous fossil resins, in particular from Baltic (Prussian Formation), Ukrainian (Rovno), and Saxonian (Bitterfeldian) amber, mainly found in different European museums and private collections of Austria, Denmark, Germany, Poland, Russia, and Baltic countries. Microphysidae are a small family (about 30 recent species) of very small bugs (not more than 3 mm) most of them distributed in Palearctic and a few in Nearctic regions. Microphysids are usually found in the litter on tree bark, on branches and trunks of old trees often covered by mosses or lichens and also in ant-hills. They are quite active predators, sucking small arthropods, like mites, springtails, aphids, psocids, psyllids, and some other arthropods. Looking through numerous heteropteran inclusions, I recently discovered that microphysids are not as rare as expected and that they are probably one of the numerous groups of Heteroptera in Baltic and Saxonian amber like Cylapinae or Isometopinae of the family Miridae. One of the reasons for this poor knowledge of the fossil Microphysidae is their striking resemblance

with members of the family Anthocoridae (especially with Oriini which show the smallest size). The main morphological characteristics which could help recognize them (except small size) are as follows: 2-segmented tarsi, one cell with one or two veins branching from the cell and almost transparent hemelytra.

Most probably the first fossil microphysid was described as *Pachymerus senius* GERMAR & BERENDT in the subfamily Rhy-parochrominae of Lygaeidae (GERMAR & BERENDT 1856). It was discovered when I examined old bug types of GERMAR & BERENDT (1856) in the collections of the Paläontologisches Museum Berlin during my visit in 2005. The first record of a fossil species of Microphysidae, later described as *Loricula ceranowiczae* POPOV from Baltic amber (POPOV 2004), was reported by KULICKA et al. (1996). To date, four species of the genus *Loricula*, sensu mihi (*L. perkovskyi* PUTSHKOV & POPOV, *L. ceranowiczae* POPOV, *L. damzeni* POPOV and *L. pericarti* POPOV) were described from Baltic and Ukrainian amber (PUTSHKOV & POPOV 2003; POPOV 2004).

Revising other microphysid inclusions from the rich private collection of the well-

<sup>1</sup>Meinem lieben Freund Prof. Dr. Ernst Heiss zum 70. Geburtstag gewidmet.

known Austrian heteropterologist Ernst Heiss, I also discovered five new species whose description and pictures are given below. Among other pieces of this collection there were also two more microphysid specimens: one of them belongs to the submacropterous female of *Loricula* (*Eocenophysa*) *damzeni* POPOV (Fig. 8), whose subbrachypterous form has been described earlier (POPOV 2004), and the other represents a new taxon which will be described elsewhere. The holotypes are deposited in the collection of E. Heiss (Innsbruck, Austria).

It should also be noted that there are well developed ocelli in females (somewhat larger than in males) among extinct microphysids as *Loricula* (*Eocenophysa*) *damzeni* POPOV (the first submacropterous form, BB D HE-3), *Loricula* (*Myrmericula*) *ocellata* nov.sp. and *Loricula* (*Myrmericula*) *samlandi* nov.sp.. Such ocelli are unknown among the extant Microphysidae. All fossil microphysid females from Baltic amber which I have examined to date have well visible ocelli, also *Loricula* (*Myrmedobia*) *kerneggerorum* Popov in prep.. Most probably at that time females have not yet evolved reduced ocelli. The above-mentioned specimen (BB D HE-3) of *L.(E.) damzeni* POPOV is the first submacropterous form of a female among all known microphysids. Until now only one brachypterous female of this species was known with well preserved cuneal fracture and developed membrane (POPOV 2004). Not only the well developed ocelli characterize fossil females of *Loricula* (*M.*) *ocellata* nov.sp. and *Loricula* (*M.*) *sam-*

*ladi* nov.sp., as two specimens of these species are represented also by true macropterous forms which is not typical for recent microphysids.

One should also pay attention to the fact, that in this collection the first fossil cimicomorphan bug (BB MP HE-1) belongs to a small tropical relict family Plokiophiliidae (Popov in prep.), which earlier was described as a subfamily of Microphysidae (CHINA 1953), but was later upgraded to family rank by CARAYON (1961) and supported by ŠTYS (1962).

## Systematic part

Order Hemiptera

Suborder Heteroptera

Infraorder Cimicomorpha

Superfamily Miroidea

Family Microphysidae DOHRN 1859

Subfamily Microphysinae DOHRN 1859

(Type genus *Loricula* CURTIS 1833)

Genus *Loricula* CURTIS 1833

Subgenus *Loricula* CURTIS 1833

Subgenus *Loricula* POPOV 2004: 99

(stat. nov.)

(Type species: *Loricula pselaphiformis* CURTIS 1833)

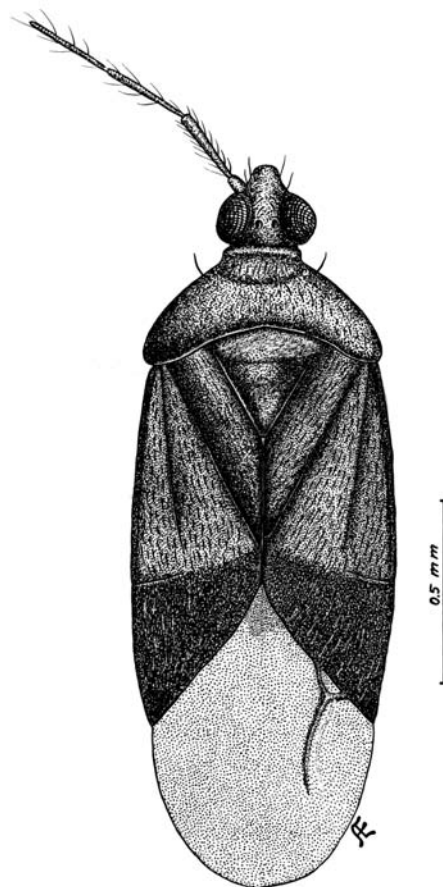
***Loricula* (*Loricula*) *ablusa* nov.sp.**

(Fig. 1, Photo 1)

Material examined: Holotype, macropterous male, BB MP HE-3. Light-yellowish rectangular piece of amber (18 x 15 mm). The specimen is dorsally and ventrally clearly visible; antennae and legs are complete, the latter are bent ventrally.

Description: Body length from head to apices of hemelytra 2 mm. Generally oblong, about 2.5x as long as wide. General colouration brownish; head and pronotum chestnut, eyes dark brown; hemelytra pale brown, except dark brown cuneus, membrane colourless. Dorsal surface more or less smooth, not punctate, covered with very short, quite dense, adpressed, pale hairs.

Head relatively short, 0.77x as long as the pronotum, with 3 pairs of setae; ocelli quite small; preocular and ocular part of equal length; frons 1.2x as wide as the diameter of the eyes; rostrum thin, reaches almost middle of mesosternum but not reach-



**Fig. 1:** *Loricula* (*L.*) *ablusa* nov.sp.; holotype, male, BB MP HE-3; dorsal view.

**Photo 1:** *Loricula* (*L.*) *ablusa* nov.sp.; holotype, BB MP HE-3; dorsal view.





ing mesocoxae; rostral segment II slightly extending over base of head, segments II and IV are of equal length, proportion of rostral segments I-IV: 3-10-10-9; antennae slender with distinct pilosity, segment II covered with short, dense, adpressed hairs, II and IV with some longer and sparse, suberect hairs; segment II slightly thickened and almost of equal length as III and IV and about 0.7x as long as the diatone; proportions of antennal segments I-IV: 7-17-18-18. Pronotum with fine pilosity and two setae anterolaterally; pronotum transverse, almost twice as wide as long, lateral margins convex and distinctly constricted anteriorly, posterior margin 2.5x as wide as anterior one and strongly emarginated; collar narrow and transversal impression distinct, callosity not expressed. Mesoscutum glabrous, quite short and 0.43x as long as the large scutellum; the latter with a median basal impression. Lateral margins of hemelytra almost straight and parallel; external margin of exocorium not expanded posteriorly; apex of large cuneus subacute; proportions of hemelytron, corium and length of cuneus: 10-4.5-2.7; length of cuneus 0.27x as long as the hemelytra and 0.62x as long as the corium; membrane with one thickened vein originating from one small cell (Fig. 1). Tibiae and femora of all legs quite slender and pilose, particularly the tibiae, metatibiae straight with erect long hairs on inner side except on basal 1/4, their tarsi quite long, 0.35x as long as the tibiae.

Measurements (in mm): Body length (including hemelytra) 2.0, width 0.75; head: length 0.25, width 0.325 (diatone); preocu-

lar part 0.12, ocular + postocular parts 0.12; width of eye 0.1; width of frons 0.125; antennal segments I-IV: 0.09: 0.24: 0.25: 0.25; rostral segments I-IV: 0.05: 0.14: 0.14: 0.13; pronotum: length 0.325 (max.) and 0.25 (min.), width 0.25 (ant.) and 0.625 (post.); length of open part of mesoscutum 0.075, of scutellum 0.175; length of hemelytron, corium and cuneus (outer side): 1.4, 0.62 and 0.38; length posterior legs: femora 0.51, tibiae 0.57, tarsi 0.2 (0.04: 0.17).

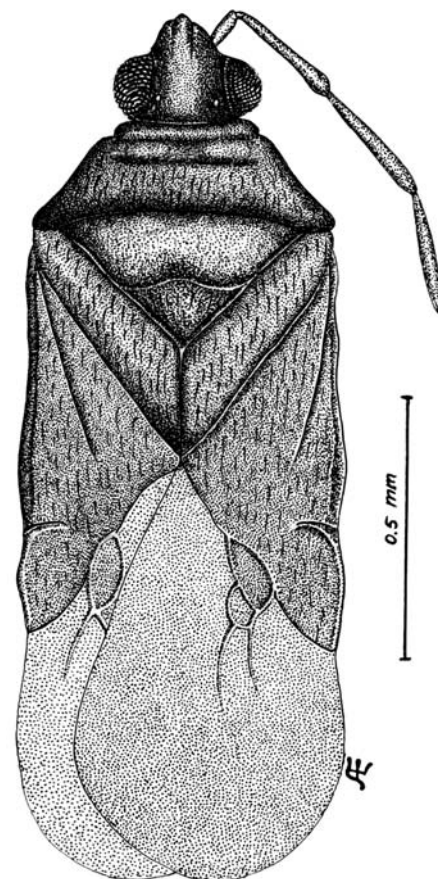
**Etymology:** From *ablusus* (lat.) = different.

**Comparison:** This new species can be easily distinguished from the other two species of this subgenus (*L. ceranowiczae* POPOV and *L. finitima* nov.sp.) by its different shape of pronotum, pilose legs, and larger size.

***Loricula (Loricula) finitima* nov.sp.**  
(Fig. 2, Photo 2, 3)

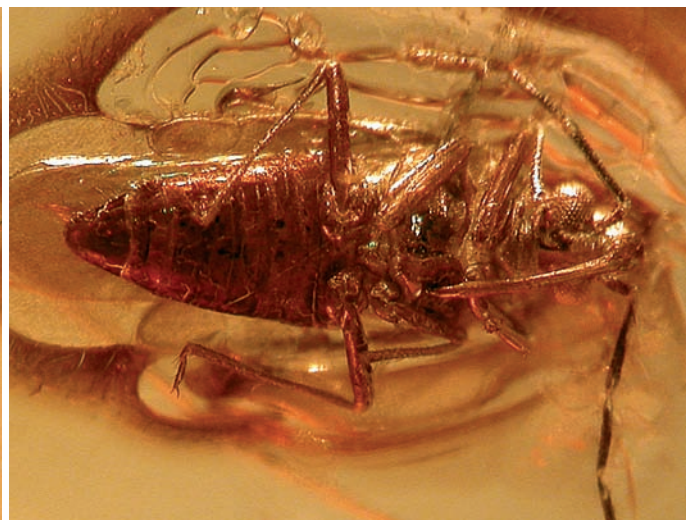
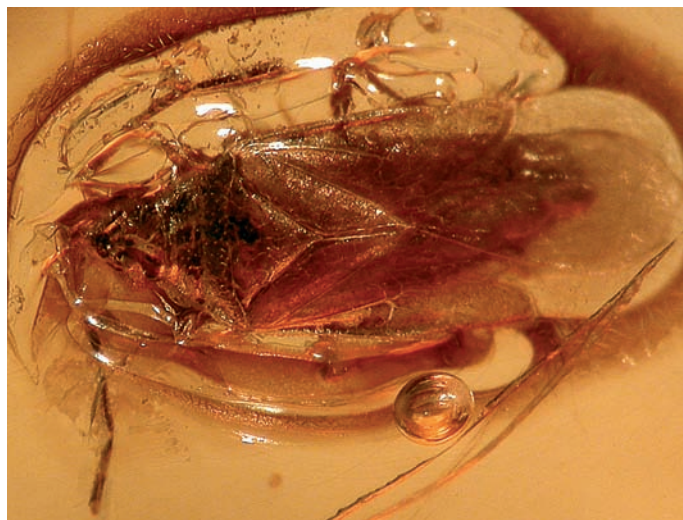
**Material examined:** Holotype, macropterous male, BB MP HE-5. Light-yellowish small piece of amber (8 x 7.3 mm) of irregular, quadrangular shape. The specimen is dorsally and ventrally very clearly visible, antennae and legs complete, the latter bent ventrally.

**Description:** Body length from head to apices of hemelytra 1.7 mm. Generally oblong, 2.9x as long as wide. General colouration uniform yellow-brownish; head and pronotum brownish, hemelytra pale-yellowish, almost transparent, membrane colourless. Dorsal surface of head glabrous, anterior part of pronotum smooth and other parts

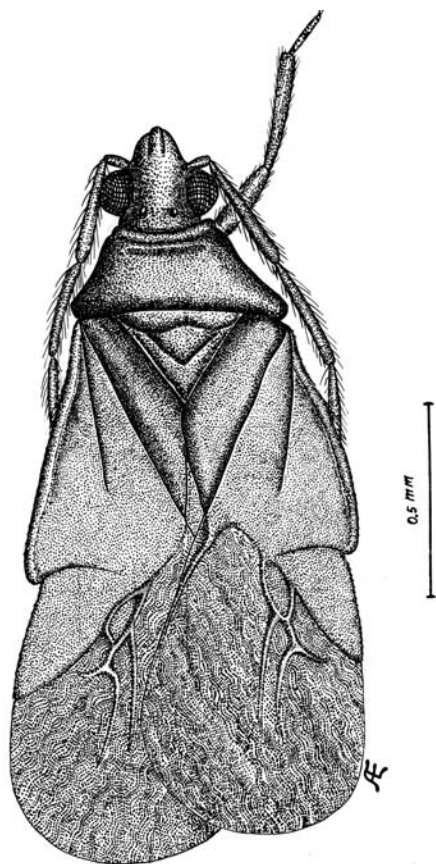


**Fig. 2:** *Loricula (L.) finitima* nov.sp.; holotype, male, BB MP HE-5; dorsal view.

**Photo 2-3:** *Loricula (L.) finitima* nov.sp.; holotype, BB MP HE-5; (2) dorsal view, (3) ventral view.







**Fig. 3:** *Loricula (M.) heissi* nov.sp.; holotype, male, BB MP HE-6; dorsal view.

**Photo 4:** *Loricula (M.) heissi* nov.sp.; holotype, BB MP HE-6; dorsal view.



of body mat, not punctate; posterior part of pronotum and hemelytra covered with hardly visible, tiny, adpressed, pale hairs.

Head short, about 1.5x as wide as long, setae not visible; preocular part short, about 0.43x as long as the ocular part; head and pronotum of almost equal length; frons wide, about 2.8x as wide as the diameter of eyes; rostrum thin, reaching middle of mesosternum; rostral segment II slightly extending over base of head and longer than other segments and about 2.5x as long as IV; proportion of rostral segments I-IV: 5-18-13-7; antennae slender and without pilosity, segment II longest and 0.83x as long as the diatone, III and IV are of equal length; proportion of antennal segments I-IV: 7-20-15-15. Pronotum distinctly transverse, 2.2x as wide as long, its posterior margin almost straight and slightly emarginated, about twice as wide as anterior one; lateral margins converging anteriorly; collar narrow, transversal impression distinct, anterior part of pronotum with a pair of obscure low callosities. Mesoscutum glabrous and of equal length as the scutellum which is mat. Lateral margins of hemelytra almost straight and parallel; external margin of exocorium distinctly thickened along its length up to the cuneus; cuneal fracture very distinct; apex of cuneus angulate; proportions of hemelytron, length of corium and cuneus: 9-5.7-1.7;

length of cuneus 0.19x as long as the hemelytra and 0.3x as long as the corium; membrane with two thickened veins branching from one of two cells (Fig. 2). Tibiae and femora of all legs without pilosity; metatibiae straight; their tarsi quite short, about 0.25x as long as the tibiae.

Measurements (in mm): Body length (including hemelytra) 1.7, width 0.75; head: length 0.2, width (diatone) 0.34; preocular part 0.06, ocular + postocular parts 0.14; width of eye 0.07; width of frons 0.2; antennal segments I-IV: 0.09: 0.28: 0.21 : 0.21; rostral segments I-IV: 0.07: 0.23: 0.19: 0.06; pronotum: length 0.23 (max.) and 0.22 (min.), width 0.24 (ant.) and 0.5 (post.); length of open part of mesoscutum 0.142, of scutellum 0.142; length of hemelytron, corium and cuneus: 1.28, 0.81 and 0.24; length of posterior legs: femora 0.36, tibiae 0.5, tarsi 0.13 (0.03: 0.1).

Etymology: From finitimus (lat.) = adjoining, neighbouring.

Comparison: This new species is similar to *L. ceranowiczae* POPOV but differing from it by the particular shape of the pronotum which is strongly converging anteriorly and its posterior margin which is not emarginated.

#### *Loricula (Myrmericula) heissi* nov.sp. (Fig. 3, Photo 4)

Material examined: Holotype, macropterous male, BB MP HE-6. Light-yellowish irregular piece of amber (25 x 13.5 x 8 mm). The specimen is dorsally and ventrally clearly visible; antennae and legs are complete, posterior legs are bent ventrally.

Description: Body length from head to apices of hemelytra about 2 mm. Generally oblong, about 2.3x as long as wide. General colouration yellow-brownish; head and antennae chestnut, eyes paler; pronotum and hemelytra pale-yellowish, the latter almost transparent, membrane colourless. Dorsal surface of head and pronotum smooth, other parts of body mat without pilosity, not punctate.

Head short, 1.1x as wide as long, setae not visible; preocular part about 0.83x as long as the ocular part; head slightly longer than pronotum (1.16x); frons wide, 1.8x



wider than diameter of eyes; rostrum thin, reaching anterior coxae, rostral segment II not reaching base of head, II and IV are of equal length; antennae slender and pilose, all segments are equally thickened, segments II-IV are of near equal length, II 0.9x as long as the diatone; proportions of antennal segments II-IV: 11-11-10. Pronotum strongly transverse, 2.4x as wide as long; lateral margins converging anteriorly; posterior margin straight, 2.4x as wide as anterior one and slightly emarginated; collar narrow but distinct, transversal pronotal impression not present, anterior part of pronotum with transverse, very narrow, polished, flattened marking. Mesoscutum glabrous and very narrow, 0.5x as long as the scutellum, the latter is very small. Lateral margins of hemelytra slightly convex and constricted anteriorly, cuneal fracture very distinct, external margin of hemelytral exocorium equally thickened along its length reaching to cuneal fracture; apex of cuneus subacute; proportion of hemelytron, corium and length of cuneus: 10-4.6-2.3; length of cuneus about 0.24x as long as the hemelytra and 0.5x as long as the corium; membrane finely wrinkled, with two thickened veins originating from a cell, one of the veins is branching (Fig. 3). Tibiae and femora of all legs without pilosity; metatibiae straight; their tarsi short and about 0.2x as long as the tibiae.

Measurements (in mm): Body length (including hemelytra) 1.95, width 0.85; head: length 0.28, width (diatone) 0.31; preocular part 0.128, ocular + postocular parts 0.152; width of eyes 0.07; width of frons 0.13; antennal segments II-IV: 0.28: 0.28: 0.26; rostral segments III-IV: 0.14: 0.14; pronotum: length 0.24 (max.) and 0.23 (min.), width 0.24 (ant.) and 0.57 (post.); length of open part of mesoscutum 0.057, of scutellum 0.114; length of hemelytron, corium and cuneus: 1.42, 0.67 and 0.33; length of posterior legs: femora 0.43, tibiae 0.68, tarsi 0.15 (0.03: 0.13).

**Etymology:** On the occasion of his 70<sup>th</sup> birthday, this very interesting species is dedicated to my friend Prof. Dr. Ernst Heiss, eminent specialist of Heteroptera and outstanding specialist of flat bugs (Aradidae).

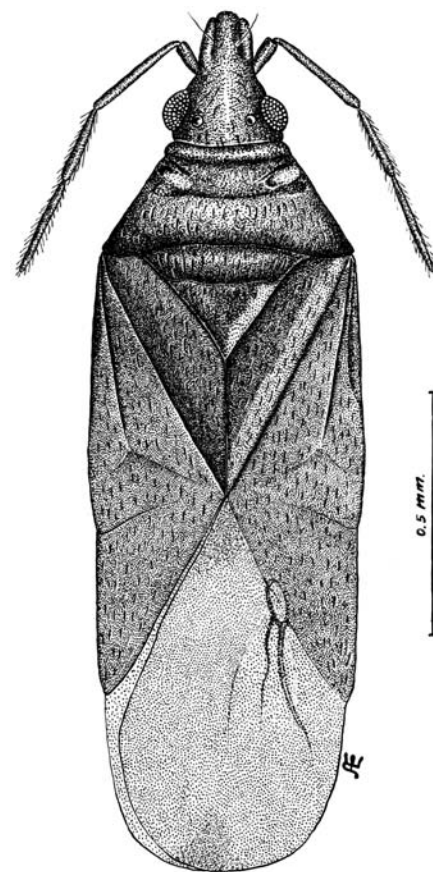
**Comparison:** This peculiar new species is very easily distinguished from three other

species described so far (*L. perkovsky* PUT-SHKOV & POPOV, *L. ocellata* nov.sp. and *L. samlandi* nov.sp.) assigned to the subgenus *Myrmericola* by the short head (shorter than pronotal length), the dorsal surface of body lacking pilosity, the glabrous pronotum without a callosity and a transversal impression and by the thickened external margin of the exocorium with an unusual cuneal constriction.

***Loricula (Myrmericola) ocellata* nov.sp. (Fig. 4, Photo 5)**

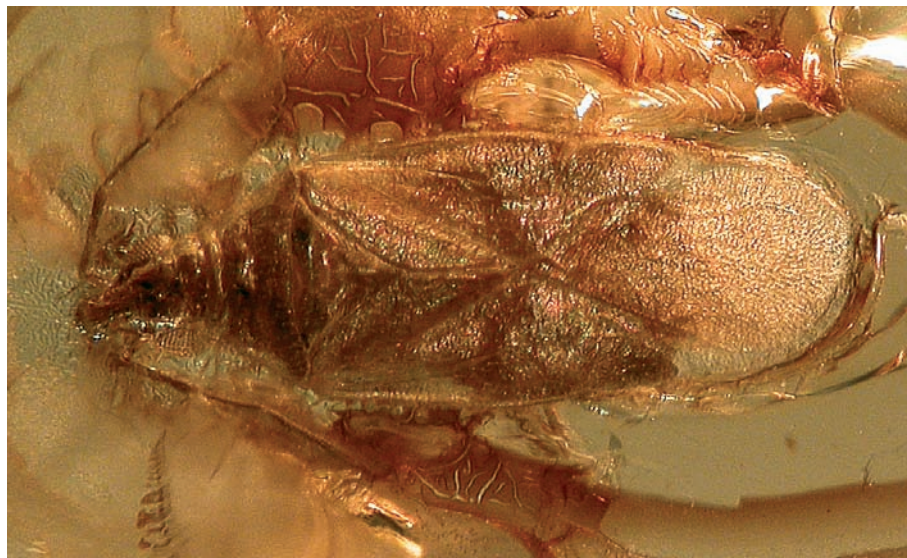
**Material examined:** Holotype, macropterous female, BB MP HE-4. Light-yellowish small piece of amber (17 x 4 mm) of stick-like shape. The specimen is dorsally and ventrally very clearly visible, antennae and legs complete, the latter are bent ventrally. Paratype, macropterous female, BB M HE-2.

**Description:** Body length from head to apices of hemelytra 1.8-1.9 mm. Generally oblong, 2.8x as long as wide. General colouration uniformly yellow-brownish; head and pronotum brownish, hemelytra pale-yellowish, almost transparent, membrane colourless. Dorsal surface of head and anterior part of pronotum smooth, posterior part of pronotum and hemelytra mat, not punctate; head, posterior part of pronotum, mesoscutum, scutellum and hemelytra (except membrane) covered by very short, thin, adpressed, pale hairs; head with two pairs of setae: first pair is situated near clypeal apex and the second one in front of the eyes.

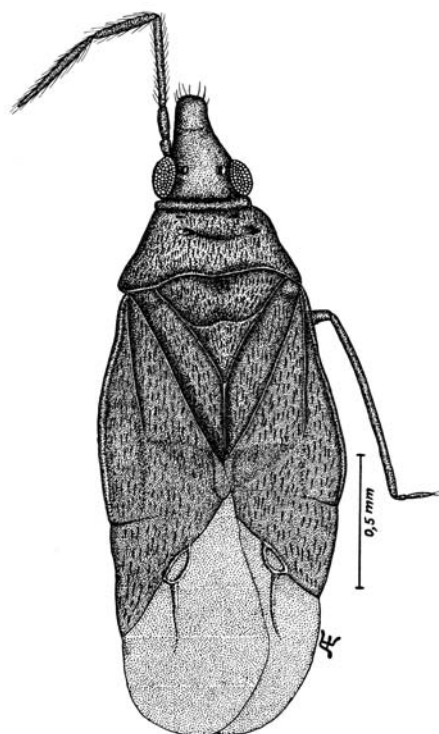


**Fig. 4:** *Loricula (M.) ocellata* nov.sp.; holotype, female, BB MP HE-4; dorsal view.

**Photo 5:** *Loricula (M.) ocellata* nov.sp.; holotype, BB MP HE-4; dorsal view.







Head moderately elongated, width and length are of equal size; preocular part and ocular + postocular part of equal length; head 1.2x as long as pronotum; frons wide, twice as wide as the diameter of the eyes; ocelli well developed, large; rostrum thin, reaching posterior margin of anterior coxae, segment II not reaching base of head; antennae slender with pilose segments, segment IV longest, II longer than III and about 0.77x as long as the diatone; proportions of antennal segments I-IV: 6-14-11-16. Pronotum transverse, 2.1x as wide as long; lateral margins considerably converging anteriorly; posterior margin almost straight and 1.9x as wide as the anterior one; anterior part of pronotum with pair of obscure, lateral, low callosities and a distinct transversal impression. Mesoscutum glabrous and very narrow, half as long as the scutellum, the latter is mat. Lateral margin of hemelytra almost straight and slightly converging basally; external margin of exocorium distinctly thickened along its length reaching to the cuneus; cuneal fracture barely visible;

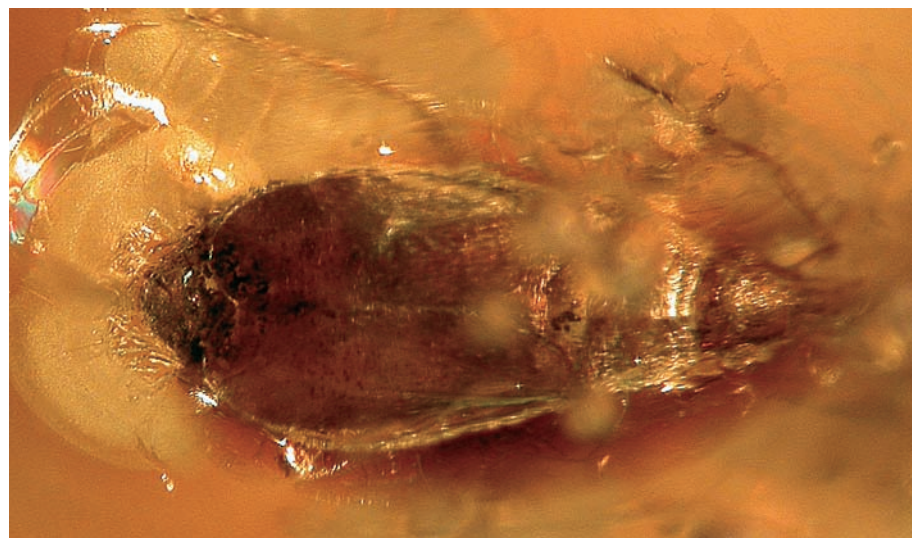
apex of large cuneus subacute; proportion of length of hemelytron, corium and cuneus: 8-4-2; length of cuneus 0.25x as long as hemelytra and 0.5x as long as the corium; membrane with two thickened veins branching from a small cell. Tibiae and femora of all legs pilose; metatibiae with long erect hairs on inner side except on basal 1/4, which are distinctly longer than the diameter of the tibiae; their tarsi are short, about 0.25x as long as the tibiae.

Measurements (in mm): Body length (including hemelytra) 1.7, width 0.64; head: length 0.285, width (diatone) 0.285; preocular part 0.14, ocular + postocular parts 0.14; width of eyes 0.07; width of frons 0.14; antennal segments I-IV: 0.09: 0.21:0.16:0.23; pronotum: length 0.23 (max.) and 0.21 (min.), width 0.28 (ant.) and 0.49 (post.); length of open part of mesoscutum 0.07, of scutellum 0.14; length of hemelytron, corium and cuneus: 1.14, 0.57 and 0.29; posterior legs: femora 0.34, tibiae 0.47, tarsi 0.14 (0.03: 0.11).

**Fig. 5:** *Loricula (M.) samlandi* nov.sp.; holotype, female, BB MP HE-2; dorsal view.



**Photo 6-7:** *Loricula (M.) samlandi* nov.sp.; holotype, BB MP HE-2; (6) dorsal view, (7) ventral view.



**Photo 8:** *Loricula (E.) damzeni* POPOV; submacropterous female, BB D HE-3; dorsal view.

**Etymology:** From ocellatus (lat.) = having little eyes.

**Comparison:** This new species is very similar to *L. samlandi* nov.sp. mainly differing from it by equal size of preocular and ocular parts of head, proportions of antennal segments II-IV which are of different length, by a more transverse pronotum (2x as wide as long), by transparent hemelytra, larger cuneus (only 2x as long as corium) and longer pilosity of legs.

***Loricula (Myrmericula) samlandi* nov.sp. (Fig. 5; Photo 6, 7)**

**Material examined:** Holotype, macropterous female, BB MP HE-2. Light-yellowish piece of amber of rectangular shape (20

x 15 mm). The specimen is dorsally and ventrally very clearly visible, antennae and legs complete, right antenna, right anterior and middle legs bent ventrally.

**Description:** Body length from head to apices of hemelytra 1.9 mm. Generally oblong, 2.7x as long as wide. General colouration uniform yellowish-brown. Dorsal surface mat and covered with tiny, hardly visible hairs.

Head moderately elongated, width and length are of equal size, setae not visible; preocular part about 1.5x as long as ocular + postocular part; head 1.3x as long as pronotum; frons wide, twice as wide as diameter of eyes; ocelli well developed, large; rostrum thin, reaching posterior margin of anterior coxae, segment II almost reaching base of head; antennae slender and pilose, segments II-IV of equal length, II about 0.83x as long as the diatone; proportion of antennal segments I-IV: 7-17-17-17. Pronotum moderately transverse, 1.9x as wide as long; lateral margins only slightly converging anteriorly; posterior margin 1.65x as wide as anterior one and almost straight; anterior part of pronotum with a pair of obscure, lateral, low callosities and a distinct transversal impression. Mesoscutum glabrous and very narrow, half as long as the scutellum, the latter mat. Lateral margin of hemelytra slightly constricted basally; external margin of exocorium distinctly thickened along its length reaching to the cuneus; cuneal fracture barely visible, apex of cuneus subacute; proportion of length of hemelytron, corium and cuneus: 9-4.8-1.7; length of cuneus about 0.2x as long as hemelytra and 0.35x as long as the corium; membrane visibly wrinkled with one thickened vein branching from one of two cells (Fig. 5). Tibiae and femora of all legs pilose; metatibiae with long erect hairs on inner side, these hairs are distinctly longer than the diameter of the tibiae, their tarsi are short, about 0.25x as long as the tibiae.

**Measurements (in mm):** Body length (including hemelytra) 1.9, width 7.7; head: length 0.33, width (diatone) 0.31; preocular part 0.21, ocular + postocular part 0.128; width of eyes 0.07; width of frons 0.14; antennal segments I-IV: 0.1: 0.25: 0.25: 0.25; pronotum: length 0.25 (max.) and 0.22, width 0.285 (ant.) and 0.47 (post.); length

of open part of mesoscutum 0.08, of scutellum 0.16; length of hemelytron, corium and cuneus: 1.29, 0.68 and 0.24; length of posterior legs: femora 0.34, tibiae 0.57, tarsi 0.14 (0.03: 0.11).

**Etymology:** This species is named after the collecting site where most of specimens of Baltic amber have been discovered: the Samland, north of Kaliningrad (former Königsberg).

**Comparison:** This new species is very similar to *L. ocellata* nov.sp. sharing characters like the surface structure and the straight posterior margin of pronotum, the pilose antennae and legs, different proportions of mesoscutum and scutellum, pubescence of dorsal body surface (covered by tiny, thin, pale hairs), and others. The differences between these species are mentioned above when comparing *L. ocellata* nov.sp. with *L. samlandi* nov.sp.

### Key to *Loricula* species in Baltic and Ukrainian amber

- 1(2) Head short, at most 0.67x as long as the pronotum; rostrum very thick and short, not reaching anterior coxae, distinctly shorter than head and pronotum taken together (subgenus *Myrmedobia*) . . . . . *L. (M.) pericarti* POPOV 2004
- 2(1) Head distinctly longer; if shorter than pronotum, then at least 0.77x as long as pronotum; rostrum considerably thinner and always reaching at least anterior coxae . . . . . 3
- 3(4) Head strongly elongate, especially preocular part which is at least 1.3x as long as ocular and postocular part; females with well developed ocelli; rostrum reaches middle of mesosternum; subbrachypterous and submacropterous forms (subgenus *Eocenophysa*) . . . . . *L. (E.) damzeni* POPOV 2004
- 4(9) Head moderately long, slightly shorter than pronotum; rostrum reaches at least middle of mesosternum; rostral segment II reaches base of head (subgenus *Loricula*) 5
- 5(6) Head about 0.77x as long as pronotum, the latter strongly converging anteriorly, posterior margin about 2.5x as wide as anterior one and considerably emarginated

- (the length ratio max.to min. is 1.5x); lateral margins convex; legs pilose; whole dorsal surface covered by moderately dense, short, adpressed hairs. Length 2-2.5 mm . . . . . *L. (s.str.) ablusa* nov.sp.
- 6(5) Head slightly shorter, of equal length or at most 1.1x as long as the pronotum, the latter less constricted anteriorly and with concave lateral margins; legs without pilosity; smaller species, length not more than 1.7 mm . . . . . 7
- 7(8) Pronotum slightly converging anteriorly, posterior margin about 1.5x as wide as anterior one and more emarginated (the length ratio max.to min. is about 1.5x). Length 1.6 mm . . . . .  
. . . . . *L. (s.str.) ceranowiczae*  
POPOV 2004
- 8(7) Pronotum distinctly converging anteriorly, posterior margin about 2.1-2.2x as wide as anterior one. Head smooth; antennae without pilosity; rostral segment II slightly passing base of head; posterior margin of pronotum straight, transverse callosity distinctly elevated and not divided. Length 1.7 mm . . . . .  
. . . . . *L. (s.str.) finitima* nov.sp.
- 9(4) Head 1.2-1.4x as long as the pronotum; rostrum rather thin, reaching only posterior margin of anterior coxae; rostral segment II almost reaching base of head (subgenus *Myrmecula*) . . . . . 10
- 10(11) Dorsal surface of body without pilosity, lateral margins of hemelytra distinctly dilated posteriorly; surface of pronotum almost glabrous, transverse pronotal impression not developed, anterior part of pronotum with a transverse narrow, smooth spot; antennal segments II-IV of almost equal length; external margin of hemelytral exocorium thickened along its length, reaching to the cuneal fracture; cuneus very distinct. Length about 2 mm . . . . .  
. . . . . *L. (M.) heissi* nov.sp.
- 11(10) Dorsal surface of body, except of head, covered with pale, very short, adpressed hairs, lateral margins parallel; pronotum with a transverse impression and a callosity; antennal segment II usually longer than III and of equal length as IV; external margin of exocorium weakly developed and not expanding posteriorly . . . . . 12
- 12(13) Pronotum transverse, about 2.5x as wide as long, lateral margin feebly explanate, callosity and transverse impression well developed, pronotum strongly converging anteriorly; posterior margin almost 2.5x as wide as anterior one; cuneus distinctly shorter than corium and about 1/3 as long as the latter; legs without pilosity. Length 1.75 mm (Rovno, Ukrainian Amber) . . . . .  
. . . . . *L. (M.) perkovskyi*  
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- 13(12) Pronotum less transverse, about twice as wide as long, lateral margin not visible, pronotum moderately converging anteriorly, posterior margin not more than twice as wide as anterior one; females macropterous with well developed ocelli; pronotal callosity and transverse impression rather obscure; cuneus longer than 1/3 the length of the corium; legs pilose . . . . . 14
- 14(15) Preocular part of head of equal length as ocular and postocular part; lateral margins of pronotum distinctly converging anteriorly, posterior margin almost twice as wide as anterior one; metatibiae with long erect hairs which are longer than the diameter of the tibiae. Length 1.8 mm . . *L. (M.) ocellata* nov.sp.
- 15(14) Preocular part of head longer than ocular and postocular part; lateral margins of pronotum only slightly converging anteriorly, posterior margin narrower and about 1.5x as wide as anterior one; metatibiae with short hairs which are shorter than the diameter of the tibiae. Length 1.9 mm . . . . . *L. (M.) samlandi* nov.sp.

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## Zusammenfassung

Aus der Sammlung von Ernst Heiss (Innsbruck) liegen sieben Inklusen Baltischen Bernsteins vor, welche Microphysidae enthalten. Fünf Arten werden als neu beschrieben (*Loricula (Loricula) ablusa* nov.sp., *L. (Loricula) finitima* nov.sp., *L. (Myrmericula) heissi* nov.sp., *L. (Myrmericula) ocellata* nov.sp., *L. (Myrmericula) samlandi* nov.sp.), ein Belegstück stellt den Zweitfund von *Loricula (Eocenophysa) damzeni* POPOV 2004 dar und eine weitere nova species wird gesondert beschrieben werden. Ein Bestimmungsschlüssel für die bisher bekannt gewordenen Arten der Gattung *Loricula* (sensu lato) aus Baltischem und Ukrainischem Bernstein wird vorgelegt.

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